

# **Piaget's Stages of cognitive development**

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# Piaget's Stages of Cognitive Development

- **1.Sensorimotor Stage**
- **2.Preoperational Stage**
- **3.Concrete Operational Stage**
- **4.Formal Operational Stage**

## **Stage 1: Sensorimotor Thought (Birth to 2 Years)**

The first stage of Piaget's theory starts from birth to approximately age 2 and is centered on the infant trying to make sense of the world. During this stage, the child's knowledge is limited to sensory perceptions and simple motor activities. e.g. looking, sucking, grasping.

## Sub-stages of the Sensorimotor Stage:

It can be divided into 6 separate sub-stages.

According to Piaget, infants can engage only in sensorimotor thought. That is, they know the world only in terms of their own sensory input (what they can see, smell, taste, touch, and hear) and their physical or motor actions on it (e.g., sucking, reaching, and grasping). They do not have internal mental representations of the objects and events that exist outside their own body.

- Representational, symbolic thought gradually emerges as the stage progresses.
- Object permanence develops as the stage progresses.

**1. Reflexes (0-1 month):** In the first month of life, infants' behaviors reflect innate reflexes—automatic responses to particular stimuli. The child understands the environment purely through inborn reflexes such as suckling, grasping, knee-jerking. These are the reactive functions that infants essentially exit the womb with.

**2. Primary Circular Reactions (1-4 months):** It involves coordinating sensation and new schemas. In the first few months of life, infants' behaviors are focused almost exclusively on their own bodies (in Piaget's terminology, the behaviors are *primary*) and are repeated over and over again (i.e., they are *circular*). Infants also begin to refine their reflexes and combine them into more complex actions.

**3. Secondary Circular Reactions (4-8 months):** In this stage the child become *more aware of and more responsive to the outside world (their behaviors become secondary), and they begin to notice that their behaviors can have interesting effects* on the objects around them. The child becomes more focused on the world and begins to intentionally repeat an action in order to trigger a response in the environment.

**4. Coordination of Reactions (8-12 months):** The child starts to show clearly intentional actions. The child may also combine schemas in order to achieve a desired effect. After repeatedly observing that certain actions lead to certain consequences, infants gradually acquire knowledge of cause-effect relationships.

- **Object Permanence**

Another acquisition at this sub-stage is **object permanence**, means **knowing that an object still exists**, even if it is hidden. According to Piaget, **Object Permanence is a child's awareness or understanding that** objects continue to exist even though they cannot be seen or heard.

**5. Tertiary Circular Reactions (12-18 months):** Piaget believed this marks the developmental starting point for curiosity and interest in novelty.

- For example: A child may try out different sounds or actions as a way of getting attention from a caregiver.

**6. Early Representational Thought (18-24 months):**

- Piaget proposed that in the latter half of the second year, young children develop symbolic thought, ***the ability to represent and think about objects and events in terms of internal, mental entities, or symbols.***
- *They may “experiment” with objects in their minds, first predicting what will happen if they do something to an object, then transforming their plans into action.*

## Preoperational Stage (2 to 7 yrs) (Toddler and Early Childhood)

- Piaget's second stage, **preoperational thought**, features the **flourishing use of mental representations** and the beginnings of logic (intuitive thought).
- This stage begins when the child starts to use symbols and language. This is a period of developing language and concepts. So, the child is capable of more complex mental representations i.e. words and images. He is still unable to use 'operations', i.e. logical mental rules, such as the rules of arithmetic. It is divided into two sub-stages:
- **1. Preconceptual stage (2 to 4 years):** *Here, cognitive development becomes increasingly dominated by symbolic activity. The child can use symbols to stand for actions; a toy doll stands for a real baby or the child role-plays mummy or daddy. Language also develops during this stage. According to Piaget, language development is based on children's mental representational ability—their ability to let a symbol (e.g., a word) stand for an object in the environment.*
- **2. Intuitive stage (5 to 7 years):** *This stage is characterized by the way in which children base their knowledge on what they feel or sense to be true, yet they cannot explain the underlying principles behind what they feel or sense.*

- The following are the key features of this stage:
- **1. Egocentrism:** The child's thoughts and communications are typically egocentric i.e. about themselves or his/her point of view. *It is the inability to see the world through anyone else's eyes except on his own.* According to Piaget, the egocentric child assumes that other people see, hear, and feel exactly the same as the child does.
- **2. Animism:** Treating inanimate objects as living ones. E.g.: Children bathing, dressing and feeding their dolls as if they are alive.
- **3. Centration:** It refers to the tendency to focus on only one aspect of a situation, problem or object, and so cannot see the big picture. Centration is noticed in conservation: the awareness that altering a substance's appearance does not change its basic properties. Children at this stage are unaware of conservation.



- **Symbols in Artwork.**
- Preoperational children's increasing ability to use mental representation is also seen clearly in the artwork they produce. To produce such artwork, the child must have mental representations
- **Pretend (or symbolic) Play**
- Toddlers often pretend to be people they are not (e.g. superheroes, policeman), and may play these roles with props that symbolize real life objects. Children may also invent an imaginary playmate.
- Watch children engaged in play, and you will soon see clear evidence of symbol use. In *symbolic play children use one object to stand for another, such as* when they pretend that a blanket is a magic carpet or a banana is a telephone.
- **Artificialism**
- This is the belief that certain aspects of the environment are manufactured by people (e.g. clouds in the sky).
- **Irreversibility**
- This is the inability to reverse the direction of a sequence of events to their starting point.

### 3. Concrete Operational Stage (7 to 12 yrs of age) (Childhood and early Adolescence)

The Concrete Operational stage is characterized by the appropriate use of logic. This stage when capacity for logical thought first emerge. During this stage, the child begins to develop:

- **1. Serialization/Classification:** The ability to name and identify sets of objects according to appearance, size or other characteristic, including the idea that one set of objects can include another
- **2. Transitivity:** The ability to recognize logical relationships among elements in a serial order. Eg.: if A is taller than B and B is taller than C, then A must be taller than C.
- **3. Decentering:** where the child takes into account multiple aspects of a problem to solve it. For example, the child will no longer perceive an exceptionally wide but short cup to contain less than a normally-wide, taller cup.
- **4. Reversibility:** The child understands that numbers or objects can be changed, then returned to their original state. **6. Conservation: understanding that quantity, length or number of items is unrelated to** the arrangement or appearance of the object or items.
- **5. Elimination of Egocentrism:** The child's egocentrism wanes and develop the ability to view things from another's perspective.
- **6. Inductive- Deductive reasoning :** The child begins to think in terms of a set of interrelated principle rather than single bits of knowledge. He use inductive-deductive approaches in terms of reasoning and arriving at conclusion.
- **7. Understanding of conservation :** The child began to understand that physical quantities do not change based on the arrangement and/or appearance of the object

## 4 Formal Operational Stage

### (from 12 yrs and up) (Adolescence and Adulthood)

This is the most complete stage of development. Ability to deal with abstract concepts and abstract reasoning develops by about age 11. Intellectually the child can and should be treated as an adult. The high order intellectual development/functioning is occurred in this stage . According Piaget , after the expiry of the formal operation stage the child may reach full intellectual potential.

- Successful communication, in other words, requires a feel for the child's stage of intellectual development.
- They are now aware that others think, but usually, in new expressions of egocentrism, presume that they and others are thinking about the same thing. Because young adolescents are experiencing tremendous biologic changes in growth and sexual development, they are preoccupied with these events.

In this stage, the individual's

- At this stage, the adolescent or young adult begins to think abstractly and reason about hypothetical problems.
- Teens begin to think more about moral, philosophical, ethical, social, and political issues that require theoretical and abstract reasoning.
- Begin to use deductive logic, or reasoning from a general principle to specific information.
- thought becomes increasingly flexible and abstract, i.e., can carry out systematic experiments.
- ability to systematically solve a problem in a logical and methodical way.
- Understand that nothing is absolute; everything is relative.
- Understand that the rules of any games or social system are developed by man by mutual agreement and hence could be changed or modified.